Digitized by the Internet Archive
in 2026

https://archive.org/details/journal-of-catalysis_1976_41_contents

Journal of Catalysis

EDITORS:
W. Keith Hall
Frank S. Stone

EDITORIAL BOARD:
R. B. Anderson
M. Boudart
J. B. Butt
A. Cimino
R. P. Eischens
P. C. Gravelle
J. Haber
C. Kemball
G. W. Keulks
J. H. Lunsford
A. Nielsen
J. F. Roth
W. M. H. Sachtler
G. C. A. Schuit
P. W. Selwood
G. V. Smith
Z. G. Szabó
K. Tamaru
S. J. Thompson
P. B. Weisz

Volume 41 • 1976

ACADEMIC PRESS
New York and London
A Subsidiary of Harcourt Brace Jovanovich, Publishers

Copyright © 1976 by Academic Press, Inc.

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

JOURNAL OF CATALYSIS 41, iii–vi (1976)

Contents of Volume 41

NUMBER 1, JANUARY 1976

F. SALA AND F. TRIFIRO. Relationship between Structure and Activity of Antimony Mixed Oxides in 1-Butene Oxidation 1

G. PEROT, M. GUISNET AND R. MAUREL. Catalytic Isomerization of Ethylenic Hydrocarbons. XII. Isomerization of 2-Butenes Selectively Deuterated in the Allylic and Vinylic Positions Over Alumina and Silica-Alumina 14

R. T. K. BAKER, J. A. FRANCE, L. ROUSE AND R. J. WAITE. Catalytic Oxidation of Graphite by Platinum and Palladium 22

W. C. CONNER AND C. O. BENNETT. Carbon Monoxide Oxidation on Nickel Oxide 30

R. A. DALLA BETTA, R. L. GARTEN AND M. BOUDART. Infrared Examination of the Reversible Oxidation of Ferrous Ions in Y Zeolite 40

HIDESHI HATTORI, MASAYOSHI ITOH AND KOZO TANABE. The Nature of Active Sites on TiO_2 and TiO_2-SiO_2 for the Isomerization of Butenes. II. Tracer Study on the Variation of Active Sites with Pretreatments 46

D. R. ARMSTRONG, R. FORTUNE AND P. G. PERKINS. A Molecular Orbital Study of Insertion Reactions in Hydro-Platinum(II) Complexes 51

R. A. RAJADHYAKSHA, K. VASUDEVA AND L. K. DORAISWAMY. Effectiveness Factors in Langmuir-Hinshelwood and General Order Kinetics 61

E. L. KUGLER, A. B. KADET AND J. W. GRYDER. The Nature of NO Adsorption on Chromia 72

TAKAKAZU FUKUSHIMA AND ATSUMU OZAKI. Nature of Active Site on Cobalt Oxide as Revealed by Tracered and Competitive Reactions of Ethylene and Butene and by H_2-D_2 Equilibration 82

O. NOVARO, S. CHOW AND P. MAGNOUAT. Mechanism of Oligomerization of α-Olefins with Zeigler-Natta Catalysts 91

ISAO MOCHIDA, SIGEKI YUASA AND TETSURO SEIYAMA. Electronic and Steric Effects of Amines on the Dimerization of Isoprene Catalyzed by Nickel Complex 101

ROBERT W. COUGHLIN AND IWAO MATSUI. Catalytic Oxidation of Aqueous Mn(II) 108

J. A. S. BETT, K. KINOSHITA AND P. STONEHART. Crystallite Growth of Platinum Dispersed on Graphitized Carbon Black. II. Effect of Liquid Environment ... 124

W. J. LINN AND A. W. SLEIGHT. Oxidation of 1-Butene over Bismuth Molybdates and Bismuth Iron Molybdate 134

G. ROVIDA, F. PRATESI AND E. FERRONI. Interaction of Dichloroethane and oxygen with the Silver (110) Surface 140

SHIGEAKI MUTO AND YOSHIO KAMIYA. Oxidation of Olefins Catalyzed by Dioxygen Complexes of Transition Metals 148

NICOLA PACIA AND JAMES A. DUMESIC. Oxidation of Hydrogen on Polycrystalline Platinum Studied by Molecular Beam Reactive Scattering 155

Copyright © 1976 by Academic Press, Inc.
All rights of reproduction in any form reserved.

R. W. Phillips and A. A. Fote. A New Class of Models to Explain the Role of Promoters in Hydrodesulfurization Catalysts 168
K. Arata, S. Akutagawa and T. Kanabe. Isomerization of *d*-Limonene Oxide over Solid Acids and Bases 173
Vipin M. Kothari and James J. Tazuma. Selective Autoxidation of Some Phenols Using Salcomines and Metal Phthalocyanines 180

Notes

John B. Butt. Coke Shell Profiles in the Fouling of H-Mordenite 190
S. J. Tauster and L. L. Murrell. The NO-CO Reaction in the Presence of Excess O_2 as Catalyzed by Iridium 192

Number 2, February 1976

I. Szymerska and M. Lipski. LEED-AES Studies of Chemisorption-Induced Sulfur Segregation from the Bulk to the Surface of Pd (100) 197
F. Solymosi and J. Kiss. Adsorption and Reduction of NO on Tin(IV) Oxide Catalysts 202
Akira Miyamoto and Yoshisada Ogino. Studies on the Catalysis by the Molten Metal. IX. A Comparison between the Isotope Effect of Two-Dimensional Dehydrogenation and the Isotope Effect of Three-Dimensional Dehydrogenation of Methyl Alcohol 212
R. Deen, P. I. Th. Scheltus and G. de Vries. Electron Paramagnetic Resonance of Supported Copper Oxide Catalyst in the Reduction of Nitric Oxide 218
J. B. Peri. A Model for the Surface of a Silica–Alumina Catalyst 227
M. Barber, P. K. Sharpe and J. C. Vickerman. Studies of the Surface Behavior of Oxide Catalysts by Secondary Ion Mass Spectrometry (SIMS). I. The Surface Composition of Copper-Containing Spinel Catalysts and Their Precursors 240
Takeshi Nishiguchi, Hideaki Imai, Yoshikazu Hirose and Kazuo Fukuzumi. Transfer Hydrogenation and Transfer Hydrogenolysis VIII. Hydrogen Transfer from Amines to Olefins Catalyzed by Heterogeneous and Homogeneous Catalysts 249
M. Primet and N. Sheppard. Modifications of the Infrared Spectra from Chemisorbed CO as a Measure of Hydrogen Coverage of a Nickel Surface: Dependence of the Spectra of Chemisorbed Ethylene on Hydrogen Coverage 258
B. J. Evans. ^{121}Sb Nuclear Gamma-Ray Resonance Study Crystal Chemical Structures in U-Sb-O Acrylonitrile Catalysts 271
J. J. Ostermaier, J. R. Katzer and W. H. Manogue. Platinum Catalyst Deactivation in Low-Temperature Ammonia Oxidation Reactions. I. Oxidation of Ammonia by Molecular Oxygen 277
Joel B. Lantz and Richard D. Gonzalez. Development of a New Isothermal Calorimeter; Heats of Hydrogen Adsorption on Supported Platinum vs Crystallite Size 293
E. Ruckenstein and M. L. Malhotra. Splitting of Platinum Crystallites Supported on Thin, Nonporous Alumina Films 303
Michael P. Rosynek and Fredlein L. Strey. The Nature of Active Sites on Catalytic Alumina: Information from Site Poisoning by Sulfur-Containing Molecules 312

Yoshio Ono, Kou Hatada, Katsuhiro Fujita, Anand Halgeri and Tominaga Keii. Type L Zeolites as Selective Catalysts for the Ring Transformation of Cyclic Ethers into Cyclic Imines 321

Notes

E. N. Panayotova, D. I. Dimitrov and A. A. Petkov. On the Role of Metallic Copper in the Oxidation of Cumene to Cumene Hydroperoxide 329

A. J. A. Konig, H. J. M. Creemers and Ph. A. Batist. On the Preparation of Bismuth Molybdate Koechlinite Catalyst 333

Lucio Forni and Giuseppe Gilardi. MoO_3 and GeO_2 Doping Effect on Pd–V_2O_5 Vapor-Phase Ethylene to Acetaldehyde Oxidation Catalyst 338

Number 3, March 1976

P. Andréu and J. Madrid. On the Mechanism of Contact Eliminations. XXXIII. Effect of the Anion on the Activity and Selectivity of Lithium and Barium Salts in the HCl Elimination from 1- and 2-Chlorobutane 343

H. C. Yao and M. Bettman. On the Existence of Two Phases of Cobalt Oxide on a Zirconia Support 349

Hiroo Niiyama and J. M. Smith. Pulse Studies of the Adsorption of Nitric Oxide of Iron Oxide Surfaces 359

Hiromu Hayasahi, Kengo Kawasaki, Masanobu Fujii, Akihiko Kainoh and Tatsuya Okazaki. Copper-Catalyzed Oxidative Coupling of Diphenylmethanimine Promoted by Some Monodentate Pyridines 367

Y. F. Chu and E. Ruckenstein. Determination of Pore Size Distribution by Transmission Electron Microscopy 373

Y. F. Chu and E. Ruckenstein. Design of Pores in Alumina 384

T. Matsushima, C. J. Mussett and J. M. White. The Adsorption of Carbon Monoxide on Palladium during the Catalyzed Reaction $CO + \frac{1}{2}O_2 \rightarrow CO_2$ 397

Struan D. Robertson and Robert B. Anderson. The Structure of Raney Nickel. V. Partial Activation of the Catalyst 405

I. E. Maxwell and E. Drent. A Kinetic Study of the Reduction of Divalent Copper-Exchanged Faujasite with Butadiene and Ammonia 412

Michael A. Gibson and Joe W. Hightower. Oxidative Dehydrogenation of Butenes over Magnesium Ferrite. Kinetic and Mechanistic Studies 420

Michael A. Gibson and Joe W. Hightower. Oxidative Dehydrogenation of Butenes over Magnesium Ferrite. Catalyst Deactivation Studies 431

D. G. Löffler and L. D. Schmidt. Kinetics of NH_3 Decomposition on Polycrystalline Pt 440

Nicola Pacia, Albert Cassuto, André Pentenero and Bernard Weber. Molecular Beam Study of the Mechanism Carbon Monoxide Oxidation on Platinum and Isolation of Elementary Steps 455

D. I. Hagen and G. A. Somorjai. The Effect of Gold on Hydrogenolysis, Isomerization and Dehydrocyclization Reactions on Polycrystalline Platinum and Iridium Foils 466

Notes

Robert J. Farrauto. Adsorption Studies on a Nickel/Alumina Methanation Catalyst 482

Gary R. Kuchcinski and Robert G. Squires. Low-Pressure Operation of the Union Carbide Gradientless Reactor..... 486
W. H. Weinberg, C. M. Comrie, and R. M. Lambert. The Kinetics of Adsorption of CO on Group VIII Transition Metals..... 489

Author Index for Volume 41..... 494

Subject Index for Volume 41 will appear in the December 1976 issue as part of a cumulative index for the year 1976